

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Petition for Rulemaking to Amend and Modernize)	RM-11791
Parts 25 and 101 of the Commission's Rules to)	
Authorize and Facilitate the Deployment of)	
Licensed Point-to-Multipoint Fixed Wireless)	
Broadband Service in the 3700-4200 MHz Band)	
)	
Expanding Flexible Use in Mid-Band Spectrum)	GN Docket 17-183
Between 3.7 and 24 GHz		

COMMENTS OF T-MOBILE USA, INC.

Pursuant to Section 1.405(a) of the Commission's rules, T-Mobile USA, Inc. ("T-Mobile")^{1/} submits these comments in response to the Broadband Access Coalition's ("Coalition") Petition for Rulemaking ("Petition"),^{2/} which requests that the Commission amend its rules to authorize a licensed fixed wireless point-to-multipoint ("P2MP") broadband service in the 3.7-4.2 GHz band. The Commission should address the Petition in the context of the recently initiated Notice of Inquiry ("NOI") examining flexible use of spectrum between 3.7 and 24 GHz.^{3/} The NOI presents an opportunity to develop a complete record regarding the 3.7-4.2 GHz band, including the Coalition's proposal. In any case, adopting rules that facilitate only

^{1/} T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly traded company.

^{2/} Broadband Access Coalition, *Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission's Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband Service in the 3700-4200 MHz Band*, RM-11791 (filed June 21, 2017); *see also* Consumer & Governmental Affairs Bureau, Reference Information Center, Petition for Rulemakings Filed, Report No. 3080, Public Notice (rel. July 7, 2017).

^{3/} *Exploring Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, GN Docket 17-183, Notice of Inquiry, FCC 17-104 (rel. Aug. 3, 2017). Because the Petition should be considered in the context of the NOI, T-Mobile has submitted these comments in that proceeding as well.

fixed P2MP technology is not consistent with recent Commission precedent, which is to permit flexible use of spectrum.

I. INTRODUCTION AND SUMMARY

T-Mobile, including the MetroPCS brand, offers nationwide wireless voice, text, and data services to 69.6 million subscribers.^{4/} In the second quarter of 2017, T-Mobile added 1.3 million net customers – marking seventeen straight quarters of adding more than 1 million every quarter.^{5/} T-Mobile also saw continued growth in postpaid phone customers – with postpaid net additions expected to lead industry for the 6th consecutive quarter^{6/} – and continued success at MetroPCS.^{7/} Moreover, T-Mobile is continuing to deploy and expand new technologies. It recently announced that it will begin to roll out fifth generation (“5G”) technology using the 600 MHz it acquired as a result of the Commission’s incentive auction.^{8/}

The increase in customer demand and the planned implementation of 5G will require additional spectrum assets in low-, mid- and high-bands. Therefore, T-Mobile and others continue to evaluate how the 3.7-4.2 GHz band can be used as part of a 5G mid-band solution, and T-Mobile consequently applauds the Commission’s recent release of the NOI. Grant of the Petition, however, may limit the opportunity to fully explore use of the band. Addressing future use of the 3.7-4.2 GHz band in the context of the NOI will better keep all options for this band

^{4/} See T-Mobile News Release, *T-Mobile Delivers Record Results In Q2 2017, Un-Carrier Performing At Peak Levels Across The Board*, (July 19, 2017, 4:05 PM), <http://investor.t-mobile.com/file/Index?KeyFile=389520474> (“T-Mobile July News Release”).

^{5/} See *id.*

^{6/} See *id.*

^{7/} See *id.*

^{8/} T-Mobile News Release, *Maintaining US Leadership in 5G with Smart Spectrum Policy* (June 30, 2017), <https://newsroom.t-mobile.com/news-and-blogs/5g-mid-band-spectrum.htm> (announcing that it will roll out 5G in 600 MHz spectrum).

available and help ensure that the United States retains its leadership position in the development of 5G technologies across all spectrum bands.

II. THE FUTURE OF THE 3.7-4.2 GHz BAND SHOULD BE DECIDED IN THE CONTEXT OF THE NOI PROCEEDING

It is administratively inefficient for the Commission to consider the Petition outside the context of the NOI. The rule changes proposed in the Petition fall squarely within the issues raised in the NOI. In particular, the Petition proposes amending the rules to create a fixed P2MP broadband service on a shared basis in the band.^{9/} Since the Petition was referenced in a Public Notice, the Commission adopted and released the NOI “seek[ing] input on potential opportunities for additional flexible access—particularly for wireless broadband services—in spectrum bands between 3.7 and 24 GHz.”^{10/} Similarly, one of the principal purposes of the NOI is to examine potential future broadband spectrum opportunities within the 3.7-4.2 GHz band.^{11/}

Indeed, both the Petition and the NOI seek to evaluate the use of the 3.7-4.2 GHz band for some of the same reasons. The Coalition points out that the band “at present . . . is extremely underutilized”^{12/} and that the current limited use of the band is “highly inefficient.”^{13/} The Commission similarly notes that current use of the band is minimal. According to the Commission, with respect to FSS use, “48 satellites use this band to provide downlink signals of various bandwidths to approximately 4,700 registered Earth stations throughout the United

^{9/} Petition at 1.

^{10/} NOI ¶ 1.

^{11/} *Id.* ¶ 19 (“In addition to considering whether to modify the service rules to support more flexible point-to-point and point-to-multipoint use in the 3.7-4.2 GHz band, we also invite comment on whether this band is desirable or suitable for mobile use. Is the 3.7-4.2 GHz band well suited for future mobile broadband deployments?”); *see also id.* ¶16 (“Recognizing the existing uses of the band, we seek comment, generally, on the potential for more intensive use of the 3.7-4.2 GHz band for wireless broadband.”).

^{12/} Petition at 5.

^{13/} *Id.* at 15.

States.”^{14/} And there are only 119 FS licenses in the band, as FS use of the band has been in a “steep decline over the past 20 years as common carriers migrated to fiber or other FS bands.”^{15/} This shared premise – the ability of the 3.7-4.2 GHz band to accommodate additional uses – is exactly why consideration of the Petition should be incorporated into the NOI.

In fact, the NOI raises the precise issues presented in the Petition. The NOI asks whether the Commission should “alter [its] existing service rules to permit more intensive fixed use in the 3.7-4.2 GHz band *by allowing for the deployment of point-to-multipoint FS broadband services.*”^{16/} And, like the Petition,^{17/} the NOI urges commenters to “propose specific changes to coordination requirements and technical and operational rules” for the band.^{18/}

T-Mobile recognizes that the Commission has specifically stated that the NOI neither forecloses the Commission “acting on or otherwise addressing” already-initiated proceedings relating to the 3.7-4.2 GHz band, including the Petition, nor “prejudges” what the Commission may decide in those proceedings.^{19/} But considering the Petition separately from the NOI would be an inefficient approach to determine future use of the band. The Petition only addresses one potential use of the band, while the NOI seeks information on a range of potential uses. For example, the NOI seeks comment on more intensive fixed use, such as P2MP FS broadband services *and* point-to-point FS,^{20/} mobile broadband use,^{21/} and changes to the terrestrial services rules to promote flexible use.^{22/}

^{14/} NOI ¶ 14.

^{15/} *Id.* ¶ 15 (internal citations omitted).

^{16/} *Id.* ¶ 18 (emphasis added).

^{17/} Petition at 21-35.

^{18/} NOI ¶ 18.

^{19/} *Id.* ¶ 11; *see also* ¶ 17.

^{20/} *Id.* ¶ 18.

The Petition states that the “future possibility of using portions of the band for sharing between P2MP and mobile services should not, in any way, be allowed to delay immediate allocation for and use of the band by P2MP services.”^{23/} But the Coalition is wrong. Sound spectrum management dictates that the Commission consider that possibility now – particularly since it is already under consideration in the NOI. It would be short-sighted to adopt rules permitting greater P2MP use of the band today only to have the NOI proceeding later conclude that those rules have made it problematic to have mobile services in the band – an outcome that the NOI proceeding might otherwise find to be in the public interest. There is no reason for the Commission to take that risk, particularly when the Coalition’s proposals can be fully considered in that proceeding.

III. DESIGNATING THE BAND FOR P2MP TECHNOLOGY IS INCONSISTENT WITH THE COMMISSION’S APPROACH TO MAKE FLEXIBLE USE OF SPECTRUM

If the Commission nonetheless considers the merits of the Petition, it should reject the proposed approach to use of the 3.7-4.2 GHz band. The Petition envisions an outcome contrary to recent Commission precedent that seeks to allow licensees to make use of spectrum for both fixed and mobile services. For example, in the Commission’s *Spectrum Frontiers* and 3.5 GHz/Citizens Broadband Radio Service proceedings, the Commission recognized the benefits of making additional spectrum available for *flexible* use.

In the *Spectrum Frontiers* proceeding, the Commission found that flexible use is necessary “given the convergence between fixed and mobile technologies, [and] attempting to define separate bundles of fixed and mobile rights might create unnecessary complexity and be

^{21/} *Id.* ¶ 19.

^{22/} *Id.* ¶ 21.

^{23/} Petition at 6.

inconsistent with the underlying technologies.”^{24/} And in the 3.5 GHz rulemaking, the Commission clarified that the band is “designed to allow new, innovative operations access to flexible, fungible spectrum.”^{25/} Further, the Commission stated that the 3.5 GHz band’s spectrum framework “promotes flexible, shared use of the band for any suitable purpose.”^{26/} In these proceedings, the Commission found that licensees and the marketplace should determine the uses of the band that best satisfied the public interest.

Like all recent wireless allocations, to ensure that the 3.7-4.2 GHz band is efficiently used, rules governing the band should be structured to permit *any* use permitted by the Table of Allocations. Then, potential licensees will be able to acquire spectrum and employ the spectrum in the manner they believe will be most productive – whether it is fixed P2MP use or mobile use. Prescribing rules that permit only *some use* of a band is inconsistent with Commission precedent.

T-Mobile recognizes that the Petition does not specifically propose to *exclude* mobile use of the 3.7-4.2 GHz band; it merely seeks to permit more intensive P2MP use of the spectrum. However, permitting additional P2MP use could potentially foreclose meaningful use of the band for other applications – including mobile wireless broadband. As discussed in the NOI, there is interest domestically and internationally in bands below 24 GHz, for the development of 5G.^{27/} Portions of the 3.7-4.2 GHz band are already in the process of being allocated internationally to

^{24/} See *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services Establishing a More Flexible Framework to Facilitate Satellite Operations in the 27.5-28.35 GHz and 37.5-40 GHz Bands*, GN Docket No. 14-177, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014, ¶¶ 77, 38 (2016).

^{25/} *Amendment of the Commission’s Rules with Regard to Commercial Operations in the 3550- 3650 MHz Band*, GN Docket No. 12-354, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959, ¶ 138 (2015) (“3.5 GHz R&O and FNPRM”); see also *3.5 GHz R&O and FNPRM* ¶ 44 (“By adopting a flexible access model across the entire band, we aim to create a versatile 150 megahertz band for shared wireless broadband use that can adapt to market and technological opportunities.”).

^{26/} *3.5 GHz R&O and FNPRM* ¶ 411.

^{27/} NOI ¶ 4.

support mobile 5G services.^{28/} And in preparation for 2019 World Radiocommunication Conference, countries have begun studying mid-band spectrum for 5G.^{29/} Accordingly, while T-Mobile does not oppose the potential use of the 3.7-4.2 GHz band for P2MP use at a licensee's discretion and consistent with whatever rules are adopted to govern the band, adopting regulations now to foster only P2MP use, without more holistically assessing the use of this valuable spectrum, would not be in the public interest.

^{28/} RADIO SPECTRUM POLICY GROUP STRATEGIC ROADMAP TOWARDS 5G FOR EUROPE, EUROPEAN COMMISSION, (Nov. 9, 2016), http://rspg-spectrum.eu/wp-content/uploads/2013/05/RPSG16-032-Opinion_5G.pdf.

^{29/} *See Spectrum for 4G and 5G*, QUALCOMM, at 21, 23 (July 2017), <https://www.qualcomm.com/documents/spectrum-4g-and-5g>; *see also* 4G Americas, 5G Spectrum Recommendations at 9-10, http://www.5gamerica.org/files/6514/3930/9262/4G_Americas_5G_Spectrum_Recommendations_White_Paper.pdf.

IV. CONCLUSION

Next generation wireless broadband is and will be a critical component for industry growth and technological advancements, including the development of 5G networks. Mid-band spectrum, particularly the 3.7-4.2 GHz band, is positioned to facilitate this growth. The future use of this spectrum is under consideration in a recently adopted NOI. Rather than evaluate one potential use of the 3.7-4.2 GHz band in the Petition, the Commission should consolidate its assessment of the Petition in the NOI. Consideration of the Petition within the context of the NOI would be administratively efficient and better serve the public interest.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Christen B'anca Glenn, hereby certify that on August 7, 2017, a copy of the foregoing Opposition of T-Mobile USA, Inc. was served by first-class mail, postage paid, on each of the following:

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